SOUTH DAKOTA STATEWIDE FISHERIES SURVEY

2102-F-21-R-48

Name: King Dam **County(ies):** Tripp
Legal Description: T101N-R75W-Sec. 16 **GPS:** 43°33'14.81"N 99°48'32.23"W
Location from nearest town: 12 miles N and 2 miles E of Winner

Date of present survey: June 15-18, 2015 (netting)
Date of last survey: Unknown
Most recent lake management plan: None done
Management classification: Unknown

Primary Game Species	Secondary and Other Species
Largemouth Bass	
Bluegill	
Yellow Perch	
Black Crappie	

PHYSICAL DATA

King Dam is located north of Winner in Tripp County, South Dakota. The surrounding land and dam grad are owned by the State of South Dakota and is located on a Game Production Area, managed by the Game, Fish and Parks Department. Water levers were low at the time of the survey by about 2-3 feet. No boat ramp exists but there is an area where a smaller type boat could be launched via a gravel area. Cattails were the main emergent vegetation present at King Dam and surrounded about ¾ of the shoreline. A mix of pondweed species like common milfoil, coontail and others comprised the submergent vegetation found at King Dam.

CHEMICAL DATA

No pollution problems were evident at the time of the survey. Water clarity was fine with a secchi disc reading of 2.0 feet. Other water quality characteristics were measured in the field on June 15, 2015, using a HACH water quality kit and a Hanna multiparameter meter. Results are found in Table 1.

Table 1. Water chemistry results from King Dam, Tripp County, June 15, 2015.

Station	Depth (ft)	Temp (F)	DO (ppm)	CO2 (ppm)	ALK (mg/L)	HRD (mg/L)	pH	Cond. (µS/cm)	TDS (ppm)	Sal.	ORP	Secchi (ft)
A	Surface	79.3	9.65	35.2	--	1192	9.19	3771	1888	1.98	-5.3	2.0
A	7.9	75.3	4.64	75.2	--	1216	8.59	3762	1877	1.98	14.8	

BIOLOGICAL DATA

Methods:

King Dam was sampled on June 15-18, 2015, with eight overnight trap net sets. The trap nets have 3ft x 5ft frames, 60ft leads, and ¾ inch knotted mesh. No experimental gill nets or electrofishing was done this survey period. Fish indices and statistics were completed using Winfin.

Results and Discussion:

Trap Net Catch

Table 2. Total catch of eight, overnight ¾-inch frame nets at King Dam, Tripp County, June 15-18, 2015.

Species	#	%	CPUE	80% C.I.	Mean CPUE*	PSD	RSD-P	Mean Wr
Bluegill	357	61.8	44.6	± 16.8	0.0	46	25	108
Black Crappie	150	26.0	18.8	± 8.5	0.0	41	15	99
Yellow Perch	67	11.6	8.4	± 5.0	0.0	61	19	85
Largemouth Bass	4	0.6	0.5	± 0.3	0.0	--	--	105

*First recorded survey (2015)

Bluegill

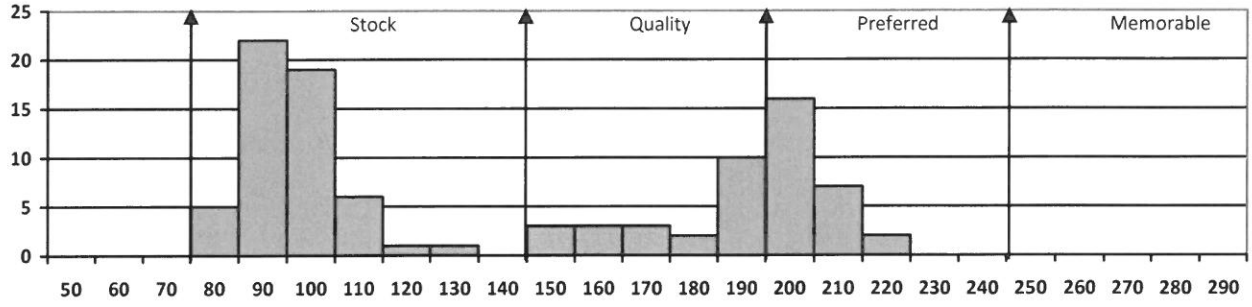
Bluegills were by far the dominant panfish species present in King Dam. The CPUE was 44.6 fish per net night (Table 2). This was the first time surveying King Dam, so no comparison data is available. Size structure was good with a PSD of 46 and an RSD-P of 25. Figure 1 illustrates this as well by showing the length frequency histogram for the fish sampled this survey. Growth is good with means right on with statewide, regional and SLI means (Table 3). Condition is also good with a mean Wr of 108.

Table 3. Average back-calculated lengths (mm) for each age class of bluegill sampled from King Dam, Tripp County, 2015.

			Back-calculated Age							
Year Class	Age	N	1	2	3	4	5	6	7	8
2013	2	54	42	85						
2012	3	9	46	97	161					
2011	4	2	49	104	146	162				
2010	5	10	41	75	133	170	188			
2009	6	10	42	70	129	169	188	203		
2008	7	14	48	78	126	160	178	193	207	
2007	8	1	50	110	148	164	186	204	212	222
All Classes		**100**	**45**	**88**	**140**	**165**	**185**	**200**	**210**	**222**
Statewide Mean			55	103	141	166	180			
Region II Mean			52	97	134	164	180			
SLI* Mean			53	101	138	163	180			

*Small Lakes and Impoundments

Figure 1. Length frequency histogram for bluegill sampled from King Dam, Tripp County, 2015.



Black Crappie

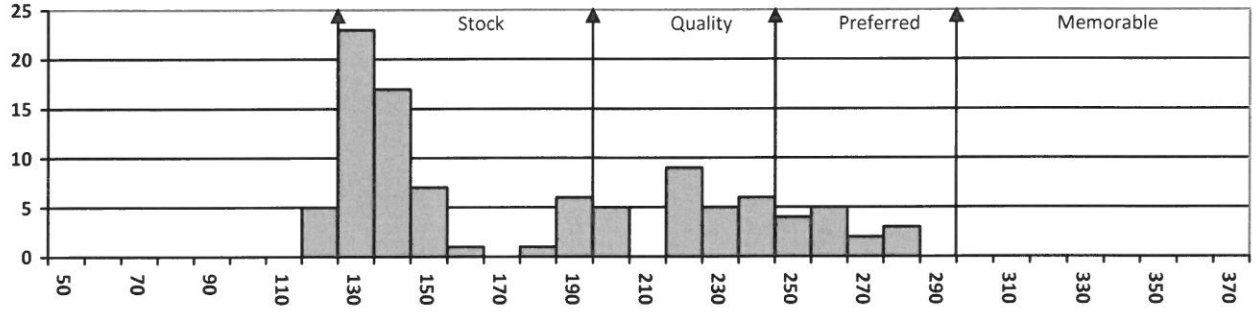
King Dam also contains a very good black crappie population. The CPUE was 18.8 fish per net night (Table 2). This was the first time surveying King Dam, so no comparison data is available. Size structure was good with a PSD of 41 and an RSD-P of 15. Figure 2 illustrates this as well by showing the length frequency histogram for the fish sampled this survey. Growth is good with means right around statewide, regional and SLI means (Table 4). Condition is also good with a mean Wr of 99.

Table 4. Average back-calculated lengths (mm) for each age class of black crappie sampled from King Dam, Tripp County, 2015.

			Back-calculated Age						
Year Class	Age	N	1	2	3	4	5	6	7
2013	2	28	58	112					
2012	3	30	65	123	151				
2011	4	27	67	139	192	217			
2010	5	7	64	107	206	239	253		
2009	6	1	67	102	164	223	254	266	
2008	7	6	66	102	160	206	225	256	267
All Classes		**99**	**64**	**114**	**175**	**221**	**244**	**261**	**267**
Statewide Mean			83	147	195	229	249		
Region II Mean			75	132	177	209	235		
SLI* Mean			78	134	180	209	226		

*Small Lakes and Impoundments

Figure 2. Length frequency histogram for black crappie sampled from King Dam, Tripp County, 2015.



Yellow Perch

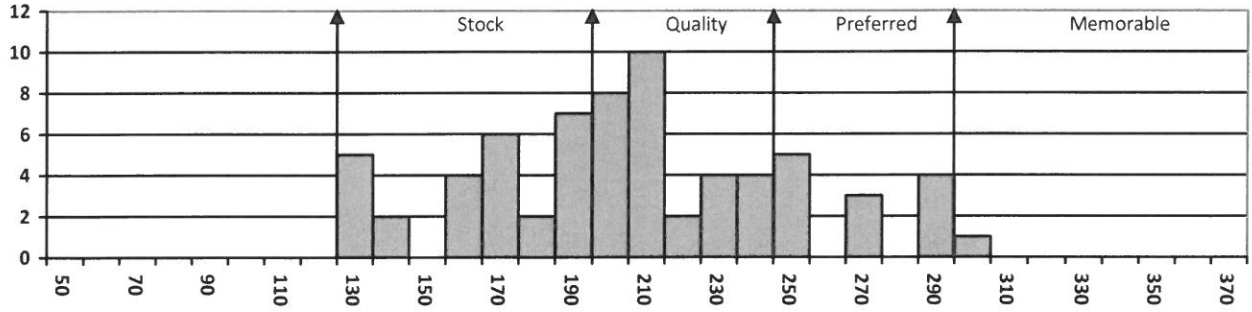
King Dam also contains a good yellow perch population. The CPUE was the lowest of the panfish species at 8.4 fish per net night (Table 2). This was the first time surveying King Dam, so no comparison data is available. Size structure was good with a PSD of 61 and an RSD-P of 19. Figure 3 illustrates this as well by showing the length frequency histogram for the fish sampled this survey. Growth is good with means right around statewide, regional and SLI means (Table 5). Condition is fine with a mean Wr of 85.

Table 5. Average back-calculated lengths (mm) for each age class of yellow perch sampled from King Dam, Tripp County, 2015.

			Back-calculated Age							
Year Class	Age	N	1	2	3	4	5	6	7	8
2013	2	7	88	131						
2012	3	14	72	127	161					
2011	4	26	77	117	169	197				
2010	5	4	79	119	178	206	224			
2009	6	12	88	130	184	220	243	257		
2008	7	3	90	134	183	218	236	259	273	
2007	8	1	110	152	184	221	238	257	263	270
All Classes		**67**	**86**	**130**	**176**	**212**	**235**	**258**	**268**	**270**
Statewide Mean			86	145	190	220	242			
Region II Mean			91	152	196	219	242			
SLI* Mean			87	142	185	205	219			

*Small Lakes and Impoundments

Figure 3. Length frequency histogram for yellow perch sampled from King Dam, Tripp County, 2015.



Largemouth Bass

Largemouth bass were the only other species sampled this survey. Only 4 fish were sampled for a CPUE of 0.5 fish per net night. It is suspected that King Dam also contains a quality bass population by looking at the quality of all three panfish species present. An electrofishing sampling event at the next survey would help to shed some light on this population.

RECOMMENDATIONS

1. Resurvey again in 2018 to further monitor the fish populations and to start to gain some trend data on this quality dam.

2. Make an effort to electrofish the largemouth bass population during the next sampling event.